SISODRV405A Coordinate recovery of 4WD vehicles

Release: 2
SISODRV405A Coordinate recovery of 4WD vehicles

Modification History
Not Applicable

Unit Descriptor
This unit describes the performance outcomes, skills and knowledge required to coordinate recovery of a four wheel drive vehicle using advanced techniques and equipment such as a recovery or snatch strap, winch and jack in difficult terrain conditions.

Application of the Unit
This unit applies to those who drive 4WD vehicles in difficult terrain for work or recreational purposes. It applies to those working autonomously as four wheel drive adventure guides or program managers and may include those working for private four wheel drive schools or clubs who are responsible for planning, organising and implementing four wheel drive programs in difficult terrain.

This unit may also apply to leaders working for outdoor education or adventure providers; volunteer groups; not-for-profit organisations or government agencies.

Licensing/Regulatory Information
Driving must be carried out according to the licensing, certification requirements of the relevant State or Territory authority.

Pre-Requisites
SISODRV302A Drive and recover a 4WD vehicle

Employability Skills Information
This unit contains employability skills.
## Elements and Performance Criteria Pre-Content

### Elements and Performance Criteria

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elements describe the essential outcomes of a unit of competency.</td>
<td>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the Evidence Guide.</td>
</tr>
</tbody>
</table>

1. **Assess situation.**
   - 1.1. Survey site and identify hazards, assess risk and define danger zones according to *operating variables*.
   - 1.2. Select a suitable recovery strategy and apply *risk management strategies* according to *relevant legislation* and *organisational policies and procedures*.
   - 1.3. Access rated *recovery equipment* suitable to selected recovery method and apply strategies to ensure safe use according to organisational policies and procedures and manufacturer's specifications.
   - 1.4. Apply strategies to reduce environmental impact during recovery.

2. **Use a recovery or snatch strap.**
   - 2.1. Determine specific hazards associated with use of recovery or snatch straps.
   - 2.2. Identify recovery points and prepare vehicle for recovery.
   - 2.3. Coordinate recovery of a vehicle on a steep incline using recovery or snatch straps.
   - 2.4. Complete post-recovery vehicle and equipment checks.

3. **Use a winch to recover a four wheel drive vehicle.**
   - 3.1. Identify specific hazards associated with winch recoveries.
   - 3.2. Prepare vehicles for a winch recovery after identification of recovery points.
   - 3.3. Establish safe ground anchor points in *different terrain conditions*.
   - 3.4. Use pulley blocks to give a mechanical advantage and change the direction of the winch.
   - 3.5. Use a tree trunk protector when using a tree as an anchor point.
   - 3.6. Operate winch to recover vehicle.
ELEMENT | PERFORMANCE CRITERIA
--- | ---
4. Use jacks to prepare vehicle for recovery. | 4.1. Identify specific hazards associated with the use of jacks.
4.2. Demonstrate safe positioning of jacks.
4.3. Apply safe operating procedures when using a jack to lift a vehicle according to organisational policies and procedures and manufacturer's specifications.

5. Maintain vehicle recovery equipment. | 5.1. Apply maintenance procedures for recovery equipment.
5.2. Document equipment and vehicle maintenance according to organisational policies and procedures.

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

**Required skills**

- problem-solving skills to:
  - determine appropriate recovery method according to the situation
  - anticipate and mitigate potential hazards and risks
- planning and organising skills to:
  - assess the situation and identify appropriate recovery method
  - prepare recovery equipment for use
- self management skills to take responsibility for the recovery of a four wheel drive vehicle using appropriate methods.

**Required knowledge**

- legislation and organisational policies and procedures to enable safe recovery of four wheel drive vehicles in difficult terrain
- four wheel drive vehicle recovery techniques used in difficult terrain, including issues to consider when defining danger zones to enable safe conduct of all activities
- use of recovery or snatch straps, winches and jacks to enable safe selection and use of equipment
- hazards and risks associated with each recovery method and methods of mitigating these risks
- terrain and weather features and how these may impact on recovery
- maintenance procedures used for recovery equipment.
**Evidence Guide**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

**Overview of assessment**

<table>
<thead>
<tr>
<th>Critical aspects for assessment and evidence required to demonstrate competency in this unit</th>
<th>Evidence of the following is essential:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• conducts assessment of recovery site and determines potential hazards, risks and environmental conditions that impact on the chosen recovery method</td>
</tr>
<tr>
<td></td>
<td>• selects and uses rated recovery equipment to enable recovery of four wheel drive vehicle, including a pulley or snatch block in difficult terrain utilising ground anchor points for both hard and soft ground</td>
</tr>
<tr>
<td></td>
<td>• applies regular maintenance of recovery equipment.</td>
</tr>
</tbody>
</table>

**Context of and specific resources for assessment**

Assessment must ensure coordination of vehicle recoveries using recovery or snatch straps, winches and jacks in difficult terrain types to demonstrate competency and consistency of performance.

Assessment must also ensure access to:

- a four wheel drive vehicle with low range
- a suitable outdoor environment with difficult terrain
- maintenance, repair and recovery equipment
- legislation and organisational policies and procedures that impact on the conduct of four wheel drive recoveries.

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of four wheel drive vehicle recovery in difficult terrain using recovery or snatch straps, winches and jacks
- oral or written questioning to assess knowledge of recovery methods used in difficult terrain
- third-party reports from a supervisor detailing performance.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- SISODRV404A Drive a 4WD vehicle in difficult terrain.
Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Operating variables may include:
- type of recovery equipment used
- possibility of cable or rope failure
- direction of recovery
- potential for vehicle roll or fall
- effect of suction on cable or winch capacity.

Risk management strategies may include:
- defining danger zone
- using equipment according to manufacturer’s recommendations
- using rated equipment where practicable.

Relevant legislation may include:
- occupational health and safety
- permits or permission for access
- environmental regulations.

Organisational policies and procedures may include:
- occupational health and safety
- use and maintenance of recovery equipment
- communication protocols
- land management and minimal impact codes
- vehicle and equipment documentation
- code of ethics.

Recovery equipment may include:
- steel cables
- shovel
- ropes
- chains
- tree trunk protectors
- winch
- winch extension ropes and slings
- jacks
- shackles
- snatch straps.

Different terrain conditions may include:
- hard ground
- soft sand
- mud
- snow
- difficult terrain.
**Jacks** may include:
- Bottle jack
- Hi-lift jack
- Bull bags.

**Safe operating procedures** may include:
- personal safety and vehicle stability
- awareness of soft footing.

**Maintenance procedures** may include:
- cleaning
- cable rolling
- greasing and oiling.

**Unit Sector(s)**
Outdoor Recreation

**Competency Field**
Driving
SISODRV404A Drive a 4WD vehicle in difficult terrain
SISODRV404A Drive a 4WD vehicle in difficult terrain

Modification History
Not Applicable

Unit Descriptor
This unit describes the performance outcomes, skills and knowledge required to select and use appropriate range, gear and techniques to drive a four wheel drive vehicle through and over difficult terrain. This includes the performance of maintenance and minor repairs on four wheel drive vehicles.

Application of the Unit
This unit applies to those who drive 4WD vehicles in difficult terrain for work or recreational purposes.

It applies to those working autonomously as four wheel drive adventure guides or program managers and may include those working for private four wheel drive schools or clubs who are responsible for planning, organising and implementing four wheel drive programs in difficult terrain.

This unit may also apply to leaders working for outdoor education or adventure providers; volunteer groups; not-for-profit organisations or government agencies.

Licensing/Regulatory Information
Driving must be carried out according to the licensing, certification requirements of the relevant State or Territory authority.

Pre-Requisites
SISODRV302A Drive and recover a 4WD vehicle

Employability Skills Information
This unit contains employability skills.
## Elements and Performance Criteria Pre-Content

**Elements and Performance Criteria**

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elements describe the essential outcomes of a unit of competency.</td>
<td>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the Evidence Guide.</td>
</tr>
</tbody>
</table>

1. Plan the four wheel driving activity.

1.1. Determine *contextual issues* impacting on the activity according to *relevant legislation* and *organisational policies and procedures*.

1.2. Access *relevant sources* to identify and interpret *weather and environmental information*.

1.3. Determine *food and water requirements* according to *principles of nutrition* and contextual issues.

1.4. Access required *equipment* and check serviceability according to relevant legislation and organisational policies and procedures.

2. Drive a four wheel drive vehicle in difficult terrain.

2.1. Perform *routine pre-departure checks* and take action to correct any deficiency.

2.2. Apply safe vehicle loading practices and secure personal items according to organisational policies and procedures.

2.3. Engage front free wheel hubs where appropriate.

2.4. Survey track to identify hazards and risks, and select the best route to minimise damage to the environment.

2.5. Advise passengers of any special safety precautions to be taken when traversing *difficult terrain*.

2.6. Use appropriate range, gear, speed, driving and braking technique to negotiate a range of difficult terrain types while maintaining control of vehicle at all times.

2.7. Perform a safe stop and forward or reverse start on a steep incline where required.

2.8. Demonstrate appropriate use of handbrake.

2.9. Apply risk management procedures relating to blind corners and oncoming traffic according to organisational policies and procedures.

3. Perform maintenance.

3.1. Access maintenance equipment and conduct *routine*
ELEMENT
and minor repairs on four wheel drive vehicles.

PERFORMANCE CRITERIA

maintenance and repair tasks.

3.2. Check, where necessary, brakes and undercarriage after negotiating difficult terrain.

3.3. Use a jack to support a four wheel drive vehicle on uneven ground, according to organisational policies and procedure and manufacturer's specifications.

3.4. Perform wheel removal and or replacement.

3.5. Complete vehicle performance reports and notify designated personnel.

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- problem-solving skills to:
  - anticipate and mitigate potential hazards and risks in difficult terrain
  - reduce environmental impact
  - conduct pre-departure checks, basic maintenance and repairs of vehicle

- communication and literacy skills to:
  - record all maintenance and repairs conducted on the four wheel drive vehicle
  - report to relevant personnel

- planning and organising skills to access all required equipment appropriate to the area and terrain being accessed.

Required knowledge

- legislation and organisational policies and procedures to enable safe participation during four wheel driving

- features and characteristics of four wheel drive vehicles and equipment to enable their appropriate selection and safe use of vehicles and equipment

- four wheel driving techniques used in difficult terrain

- terrain and weather features and how these might impact on four wheel driving including terrain specific safety requirements to minimise risk to self, others and the environment

- maintenance and basic repair procedures to ensure risk minimisation to self and group

- minimal impact techniques to enable protection of the environment.
Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- plans equipment and supply requirements according to the conditions and duration of the activity and conducts routine pre-departure checks of vehicle or vehicles and takes action to correct deficiencies
- surveys track and assesses risk for both day and night driving, and selects route that reduces environmental impact and risk to self and others
- performs maintenance and minor repairs on four wheel drive vehicle, and reports details on vehicle performance and action taken to appropriate personnel.

Context of and specific resources for assessment

Assessment must ensure application of driving techniques to negotiate difficult terrain types that reflect local conditions and are of a sufficient duration to demonstrate competency and consistency of performance.

Assessment must also ensure access to:

- a suitable outdoor environment with difficult terrain for four wheel driving
- a suitable four wheel drive vehicle with low range
- maintenance, navigation and repair equipment
- resources and information to plan and select equipment for the activity
- legislation and organisational policies and procedures that impact on the conduct of four wheel driving.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of safe four wheel driving technique on difficult terrain
- oral or written questioning to assess knowledge of difficult terrain features and risks
- observation of safe maintenance and repair performance
- third-party reports from supervisor detailing
performance.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- SISODRV405A Coordinate recovery of 4WD vehicles
Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

**Contextual issues** may include:
- weather conditions, including times
- season
- transport
- location
- trip distance and duration
- group objectives
- group size.

**Relevant legislation** may include:
- occupational health and safety
- permits or permission for access
- area restrictions
- national and state or territory track classification guides
- environmental regulations.

**Organisational policies and procedures** may include:
- occupational health and safety
- use and maintenance of equipment
- communication protocols
- land management and minimal impact codes
- vehicle reporting and notification procedures
- travelling in convoy with other vehicles
- code of ethics.

**Relevant sources** may include:
- Bureau of Meteorology
- media
- land managers or agencies
- local knowledge.

**Weather and environmental information** may include:
- satellite images
- daily and weekly forecasts
- maximum and minimum temperatures
- weather warnings
- event warnings
- river levels
- synoptic charts
- high and low tide predictions.

**Food and water requirements** may include:
- menu planning and preparation
- range of foods and drinks
perishability
storage
energy content.

**Principles of nutrition** may include:
- food groups
- dietary guidelines
- individual food requirements and allergies.

**Equipment** may include:
- navigation equipment
- maintenance equipment
- recovery equipment
- chains.

**Routine pre-departure checks** may include:
- engine
- body
- mirrors
- tyres
- accessories.

**Difficult terrain** may include:
- long, steep inclines and declines
- cross slope driving
- deep water crossings
- tracks with narrow, twisting, irregular terrain
- irregular sandy and or muddy terrain
- very rough rocky ground
- snow and ice
- slippery incline and declines.

**Routine maintenance and repair tasks** may include:
- change wheels in uneven terrain
- puncture repairs
- fluid top-up.

**Unit Sector(s)**
Outdoor Recreation

**Competency Field**
Driving